ELSEVIER

Volume 77, Numbers 1–3, 1 May 1998

Journal of
Materials
Processing
Technology

Contents

A personal glimpse of the life and works of William Johnson: a researcher of materials processing technology and an engineering educator 1
M.S. Hashmi

A ductile growth model for elasto-plastic material 9
C. Staub, J.C. Boyer

A mathematical model of heat transfer and fluid flow in the gas metal arc welding process 17
I.S. Kim, A. Basu

The effect of high pressure hydrogen on the creep fracture of notched ferritic-steel components. 25
L. Looney, R.C. Hurst, D. Taylor

Modelling of the pressure distribution within a hydrodynamic pressure unit: Effect of the change in viscosity during drawing of wire coating. 32
S. Akter, M.S. Hashmi

Production of composites from Al and AlMg2 alloy chips 37
J.Z. Gronostajski, J.W. Kaczmar, H. Marciniak, A. Matuszak

Properties of Pd/Sn Ohmic contacts on n-GaAs 42
M.S. Islam, P.J. McNally, D.C. Cameron, P.A. Herbert

Reduction of the stresses introduced during the diffusion bonding of dissimilar materials 50
S. Raevska

Holding time in the pressing cycle and its influence on the performance characteristics of zinc oxide varistor discs. . . . 54
A.N. Karim, R. Puyane, M.A. El-Baradie, M.S. Hashmi

Selection of cemented carbide turning tools using EMF and optimization criteria 59
A.K. Nurul Amin, M.R. Sarker, M. Ahmed, A.N. Mustafizul Karim

Automatic cutting-tool condition monitoring on CNC lathes 64
T. Szecsi

A mechanical device for measuring the displacement and rotation of a blanking or forging press. 70
B. Tomov, K. Chodnikiewicz

Upon the advantages of the application of gas carbonitriding for ferrous sintered alloys 73
S. Charizanova, G. Dimitrov, E. Rousseva, V. Marcov

Autoclave consolidation of fibre composites with a high temperature thermoplastic matrix. 80
A. Lystrup, T.L. Andersen

The role and interactions of process parameters on the nature of alkoxide derived sol–gel films 86
S.M. Tracey, S.N. Hodgson, A.K. Ray, Z. Ghassemlooy

Finite-element analysis of bulge forming applying pressure and in-plane compressive load 95
M. Ahmed, M.S. Hashmi

Nitrides from solid state metathesis reactions: synthesis and mechanistics. 103
A.L. Hector, G. Henshaw, A.V. Komarov, I.P. Parkin

Evaluation of latex binder in the processing of electronic ceramic powder 108
S. Begum, A. Duff, R. Puyane, M.S. Hashmi

Effects of nitrogen gas flow rates on the microstructure and properties of laser-nitrided IMI318 titanium alloy (Ti–4V–6Al) 115
S. Mridha, T.N. Baker

Effect of process variables on structure and properties of aluminium–silicon piston alloy 122
M.M. Haque, M.A. Maleque

Production and evaluation of textured polymer sheets as optical pressure-sensing interfaces 129
M. Mitchell, M. Howarth, C.R. Gentle

Elsevier Science S.A.

Process signatures and finite elements in metal sheet forming 134
D.W. Rees, R.K. Power

Quality control in plane-strain bead-forming processes through the load–displacement curve 145
L. Tomesani

Cutting forces in the end milling of Inconel 718 153
M. Alauddin, M.A. Mazid, M.A. El Baradi, M.S. Hashmi

A computer-aided approach for the simulation of the directional-solidification process for gas turbine blades 160
L.M. Galantucci, L. Tricarico

Study of fractional softening in multi-stage hot deformation 166
K.P. Rao, Y.K. Prasad, E.B. Hawbolt

Plastic instability for off-axes loading in deep-drawing operations 175
T. Nguyen Nhat, R. Arrieux, P. Vacher, L. Tabourot

The structure and properties of W–Mo–V high-speed steels with increased contents of Si and Nb after heat treatment . 180
L.A. Dobrzański, A. Zarychta

CADPATH: a complete program for the CAD-, CAE- and CAM-winding of advanced fibre composites 194
B.S. Johansen, A. Lystrup, M.T. Jensen

The effect of weld geometry and residual stresses on the fatigue of welded joints under combined loading 201
T.N. Nguyen, M.A. Wahab

An anti-loosening screw-fastener innovation and its evaluation 209
N. Sase, K. Nishioka, S. Koga, H. Fujii

Effects of the stress-relief conditions on a martensite stainless-steel welded component 216
A.G. Olabi, M.S. Hashmi

Optimization of the heat treatment for steam and gas turbine parts manufactured from 9–12% Cr steels 226
A.A. Tchizhik, T.A. Tchizhik, A.A. Tchizhik

The prediction of the temperature distribution and weld pool geometry in the gas metal arc welding process 233
M.A. Wahab, M.J. Painter, M.H. Davies

Evolution of the friction factor of a molybdenum workpiece during upsetting tests at different temperatures 240
C. Thiébaut, C. Bonnet, J.M. Morey

Methods of wear testing for advanced surface coatings and bulk materials 246
D.M. Kennedy, M.S. Hashmi

Modelling of void nucleation and fiber debonding in a composite material 254
B. Lay, M. Brunet, M. Boivin

Thermal annealing of flash evaporated Cu(In, Ga)Se_2 thin films 260
E. Ahmed, A. Zegadi, A.E. Hill, R.D. Pilkington, R.D. Tomlinson, W. Ahmed

Brazing of Si_3N_4 ceramic to copper 266
A.H. ElSawy, M.F. Fahmy

Failure modelling for ZnO varistors 273
M.D. Huda, R. Puyane, M.A. El Baradie, M.S. Hashmi

Machinability of nickel-base super alloys: a general review 278
I.A. Choudhury, M.A. El-Baradie

Computer-aided evaluation of workability in bulk forming processes 285
A.S. Wifi, A. Abdel-Hamid, N. El-Abbasi

Hydro-dynamic pressure distribution in tapered, stepped parallel bore and complex geometry pressure units: experimental results 294
M.A. Nwir, M.S. Hashmi

A new method of fine grained casting for nickle-base superalloys 300
L. Liu, R. Zhang, L. Wang, S. Pang, B. Zhen

An investigation of plane-strain lateral extrusion to form components having staggered branches 305
J. Monaghan
G.E. D'Errico, S. Bugliosi, E. Guglielmi

Formation and remelting of a solid polymer layer on the wire, in a polymer melt chamber 314
S. Akter, M.S. Hashmi

Tool-life prediction model by design of experiments for turning high strength steel (290 BHN) 319
I.A. Choudhury, M.A. El-Baradie

Testing of composite materials at high rates of strain: advances and challenges 327
A.M. Hamouda, M.S. Hashmi

Tool-life reliability of cermet inserts in milling tests 337
G.E. D'Errico, S. Bugliosi, E. Guglielmi

Author Index of Volume 77 345
Subject Index of Volume 77 346

The publisher encourages the submission of articles in electronic form thus saving time and avoiding rekeying errors. A leaflet describing our requirements is available from the publisher upon request.

Contents Direct, The ***free*** e-mail alerting service, delivers the table of contents for this journal directly to your PC, prior to publication. The quickest way to register for **Contents Direct** is via the Internet at: **http://www.elsevier.nl/locate/ContentsDirect**. If you don't have access to the Internet you can register for this service by sending an e-mail message to cd-subs@elsevier.co.uk - specifying the title of the publication you wish to register for.